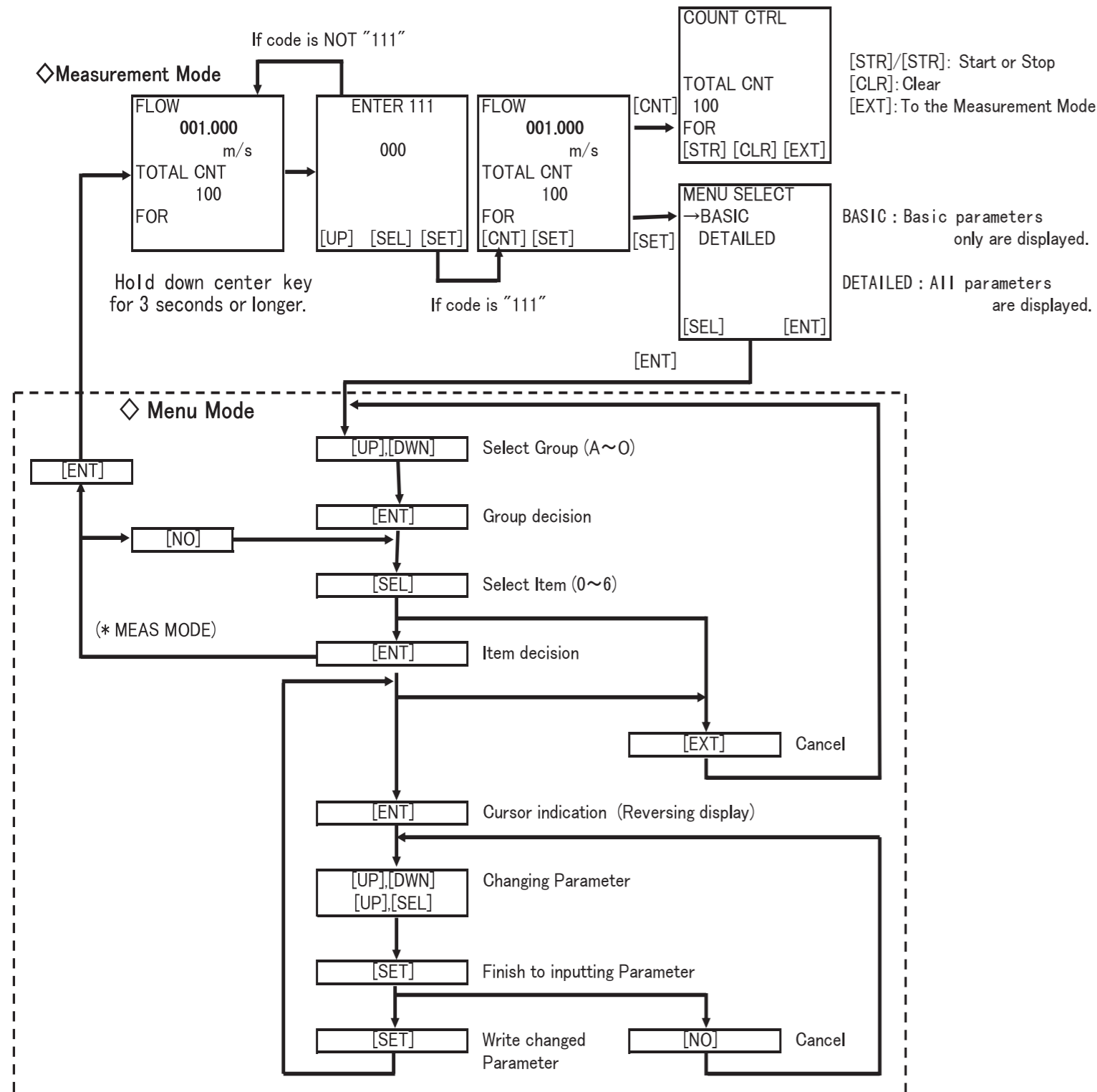


Electromagnetic Flowmeter LF600 Series Operation Guide



● Setting Parameters Flow ●



● Setting Menu ●

Items	Screen Display	Setting or selecting value
0 Measurement Mode	MEAS MODE	
1 Excitation Current	EX CURRENT	0.0000A ~ 0.2400A (0.0001A each)
2 Meter size	METER SIZE	0.1 ~ 24 inch, 2.5mm ~ 600mm
3 Excitation Frequency	EX FREQ	6, 12, 24 Hz
4 Flow Direction	FLOW DIRCTN	NORMAL, SWITCH
5 Password	PASSWORD	000 ~ 999 (1 each)
6 Communication Address	ADDR SET (*2)	000 ~ 126 (1 each)
0 Measurement Mode	MEAS MODE	
1 Main Display	MAIN DSP	*First Unit : Volume, Others %, m ³ , l, ml, bbl, gal, m ³ /s, COUNT, RANGE, pt, qt, CUSTOM, GRAPH (*4) *Second Unit : Time unit /s, /min, /h, /d
2 Sub Display	SUB DSP	*Third unit : Flow direction code B (Automatic selection bi-directional flow) F (Fixed forward flow), R (Fixed reverse flow) D (Difference)
3 Custom Coefficient	CUSTOM DATA	0 ~ 99999999
4 Custom Unit	CUSTOM UNIT	7 Characters
5 LCD Density Adjustment	LCD ADJUST	1(Light) ~ 5(Dark)
6 Swich Position	SW POSITION	TOP, BOTTOM, LEFT, RIGHT
0 Measurement Mode	MEAS MODE	
1 Range Type	RANGE TYPE	SINGLE, 4F - 0R, 2F - 2R, EXT 2F - 0R, EXT 2F - 2R
2 Range 1	RANGE1	*Volume unit m ³ , l, ml, bbl, gal, pt, qt *Time unit /s, /min, /h, /d *Velocity unit m/s, ft/s
3 Range 2	RANGE2	
4 Range 3	RANGE3	
5 Range 4	RANGE4	
6 Range Hysteresis	RANGE HYS	0.0 ~ 25.0 % (0.1% each)
0 Measurement Mode	MEAS MODE	
1 Damping Constant	DAMPING	00.0, 00.5, 01.0 ~ 60.0 s
2 Low Cutoff	LOW CUT	0.0 ~ 10.0 % (0.1% each)
3 4-20mA Alarm Output	ALM mA SET	UNDER 3.0mA, 4.0mA, HOLD, OVER 24.0mA
4 Display Low Cutoff	DSP LOW CUT	ON, OFF
5 Output Low Limit	LOW LIMIT	4.0mA, 3.2mA, 2.4mA
0 Measurement Mode	MEAS MODE	
1 Zero Adjustment	ZERO ADJUST	Hold down the [SET] key
0 Measurement Mode	MEAS MODE	
1 DO1 Function	DO1 FUNCTN	NO USE, HIGH ALM, HH ALM, LOW ALM, LL ALM RNG SIG 1, RNG SIG 2, PRESET, CONV ALM
2 DO2 Function	DO2 FUNCTN (*2)	EMPTY ALM, PULSE OUT, PULSE FRD, PULSE REV
3 DI Function	DI FUNCTN (*2)	NO USE, CNT STA/STP, CNT RES/STA RANGE SW, ZERO ADJ, FIXED OUT
4 DO1 Active Status	DO1 ALM STS	NORMAL OPEN, NORMAL CLSE
5 DO2 Active Status	DO2 ALM STS (*2)	
6 DI Detectable Level	DI DET LV (*2)	H LEVEL, L LEVEL
0 Measurement Mode	MEAS MODE	
1 Counting Rate	COUNT RATE	Units : m ³ , l, ml, bbl, gal, pt, qt Value : within the range 3.6 ~ 36000000 pulse/h (0.001 ~ 10,000 pps)
2 Pulse Mode	PLS MODE	AUTO, MANUAL
3 Pulse Width	PLS WIDTH	0.3 ~ 500.0ms (0.1ms each) or Less than half of the pulse rate for 100% flow rate output
0 Measurement Mode	MEAS MODE	
1 Preset Count	PRESET CNT	0 ~ 99999999 count (1 count each)
2 Preset Function	PRESET FNC	HOLD, 50ms PULSE, 500ms PULSE
0 Measurement Mode	MEAS MODE	
1 High Alarm Set	H ALM SET	ON, OFF
2 High Alarm Value	H ALM VAL	-10 ~ 110 %
3 Low Alarm Set	L ALM SET	ON, OFF
4 Low Alarm Value	L ALM VAL	-10 ~ 110 %
0 Measurement Mode	MEAS MODE	
1 High High Alarm Set	HH ALM SET	ON, OFF
2 High High Alarm Value	HH ALM VAL	-10 ~ 110 %
3 Low Low Alarm Set	LL ALM SET	ON, OFF
4 Low Low Alarm Value	LL ALM VAL	-10 ~ 110 %
0 Measurement Mode	MEAS MODE	
1 Empty Pipe Alarm	EMPTY ALM	OFF, NORMAL, SENSITIVE, SENSITIVE-H
2 Self-diagnosis function	SELF CHECK	ON, OFF
3 Alarm Output Preset	ALM PRESET	WITHOUT EMP, WITH EMP
0 Measurement Mode	MEAS MODE	
1 Rate-of-change Limit	LIMIT RATE	0.0 ~ 30.0 % (0.1% each)
2 Control Limit Time	LIMIT TIME	00 ~ 20 s (1s each)
0 Measurement Mode	MEAS MODE	
1 Fixed-value Output	FIXED OUT	ON, OFF
2 Fixed-current Output	FIXED CURR	2.4 ~ 24.0 mA (0.1mA each)
3 Fixed-pulse Output	FIXED PULSE	0 ~ 10000 pps (1pps each)
0 Measurement Mode	MEAS MODE	
1 Manual Zero	MANUAL ZERO	±10% of 10m ³ /s-maximum range (0.1% each)
0 Measurement Mode	MEAS MODE	
1 0% Flow Rate Calibration	FLOW CAL 0	[ENT] switch (Keep pushing more than 2 seconds.)
2 50% Flow Rate Calibration	FLOW CAL 50	None (Display)
3 100% Flow Rate Calibration	FLOW CAL 100	[ENT] switch (Keep pushing more than 2 seconds.)
4 Checking the Excitation Current Value	EX CURR DSP	None (Display)

*1 This value is factory adjusted when shipped.

*2 These functions are option.

*3 In case of choosing COUNT or RANGE
 COUN : displays totalized flow counts (8 digits) without a unit.
 RANGE : displays the range number (1 to 4)

*4 Only sub display

*5

Range type	Description
1: SINGLE	Single range
2: 4F - 0R	Unidirectional flow, automatic selection of multiple ranges
3: 2F - 2R	Bidirectional flows, automatic selection of multiple ranges
4: EXT, 2F - 0R	Unidirectional flows, multiple ranges selected by external single
5: EXT, 2F - 2R	Bidirectional flows, multiple ranges selected by external single

*6

4-20mA Alarm Output	Output Status
0: UNDER 3.0mA	Under 3mA output
1: 4.0mA	4mA output
2: HOLD	Measured data hold
3: OVER 24.0mA	Over 24mA output

*7

DO1, DO2 items	Digital output function
0: NO USE	Not used
1: HIGH ALM	High limit alarm output
2: HH ALM	High high limit alarm output
3: LOW ALM	Low limit alarm output
4: LL ALM	Low low limit alarm output
5: RNG SIG 1	Multi - range output No.1
6: RNG SIG 2	Multi - range output No.2
7: PRESET	Preset point output
8: CONV ALM	Converter failure alarm output
9: EMPTY ALM	Empty pipe alarm output
10: PULSE OUT	Pulse output (bidirectional flow)
11: PULSE FRD	Pulse output (fixed forward flow)
12: PULSE REV	Pulse output (fixed reverse flow)

*8

DO1/DO2 Active Status	Alarm - output Status
0: NORMAL CLOSE	Normal close
1: NORMAL OPEN	Normal open

*9

DI Detectable Level	Detective Level
0: L LEVEL	L level
1: H LEVEL	H level

*10

Preset Function	Output Status
0: HOLD	Output Status Level Hold
1: 50ms PULSE	Pulse out (pulse width 50ms)
2: 500ms PULSE	Pulse out (pulse width 500ms)

*11

Empty Pipe Alarm	Setting and Degetive Level
0: OFF	Not used
1: NORMAL	Used and Ditective level low
2: SENSITIVE	Used and Ditective level middle
2: SENSITIVE-H	Used and Ditective level high

*12 When this function is set to ON, the conditions are follwing.

Items	Conditions
Current output	User - set current output
Pulse output	Pulse output with a user - set counting rate
Digital outputs	Previous status is retained (excluding pulse output).
Data indicating	Instantaneous flow rates and flow velocity (no totalization).

*13 (1) In case of the zero adjustment (Menu No.E1), Zero offset is automatically cleared to Zero.
 (2) Calculate the zero offset value with the follwing equation:
 Zero offset value (%) = [(Actual flow rate) - (LF600 measured value)]
 (Sample)

Measured condition	Flow rate	% in measured span
Actual flow rate obtained from other instrument	10.0 m ³ /min	50%
LF600 measured value	10.5 m ³ /min	52.5%
Zero offset	-	-2.5%

If zero offset is set to -2.5%, LF600 will output 50.0% flow rate instead of 52.5%

